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The Iron Industries of Lebanon County.

PAPER READ BEFORE THE

LEBANON COUNTY HISTORICAL SOCIETY,

JUNE 17, 1904,

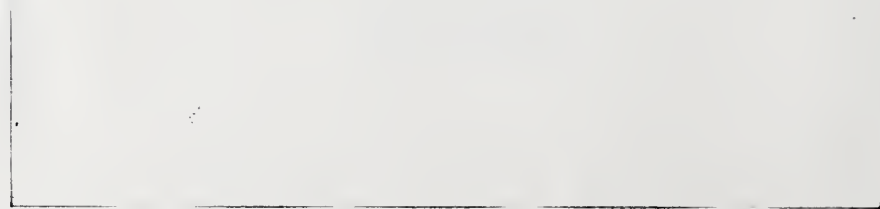
—BY—

Henry C. Grittinger,

Lebanon, Pa.

The Legend of the Hounds.
(Appended)

VOL. III. NO. I.



THE IRON INDUSTRIES OF LEBANON COUNTY.

BY H. C. GRITTINGER.

When the preparation of a sketch of the Iron Industries of Lebanon County was assigned to the writer, about four years ago, it proved to be a larger undertaking than at first it appeared to be;—the part relating to Cornwall Furnace and the Cornwall Ore Banks read at the February, 1901. meeting of the Society, alone being longer than had been previously allowed for similar papers. The present paper is to be a continuation of the subject, and has been arranged to mention the different industries in chronological order. Unfortunately, for want of proper information, several plants are omitted, notably, Union Forge and the Lickdale Steel plant,—the Phraener Foundry,—Major & Bros.' Foundry,—and the American Iron and Steel Mfg. Co's. plant.

New Market Forge.

The first iron manufacturing plant erected after Cornwall Furnace was New Market Forge, (now abandoned), which was located on the Quittapahilla Creek, in what was originally Lebanon township, Lancaster county, afterwards Londonderry township, Dauphin county, and now North Annville township, Lebanon county. The land on which it was erected was taken up on a Warrant granted to Gerrard Etter, a German, on December 16, 1747. It is not known definitely when the first forge was built, but it must have been prior to 1756, as Acrelius, in his history of New Sweden, heretofore noted, in describing

Grubb's Iron Works at Cornwall, states that the pig iron made there "keeps six forges regularly at work,—two of his own, two belonging to Germans in the neighborhood, and two in Maryland." One of these forges was undoubtedly New Market, or as it was then called, "Quitopeshilla Forge," and the other probably may have been "The Tulpehocken Eisen Hammer," afterwards known as "Charming Forge," in Berks county, that was built in 1749, by John George Nikoll, also a German. About the year 1767 the Quitopeshilla Forge was operated by Mr. Jas. Old,—and Mr. Robert Coleman, the ancestor of the Coleman family of Lebanon county, was employed here as clerk. The property was owned by Gerrard Etter up to the time of his death, and was bequeathed by him to his son, Samuel Etter, who in April, 1793, sold it to Adam Orth, who operated the forge up to the time of his death, about a year later.

David Krause, of Lebanon, who was a son-in-law of Adam Orth, and the father of the late John Krause, who was a prominent citizen of Lebanon forty years ago, residing in the house now occupied by Maj. John W. Mish, was in partnership with Adam Orth in operating the forge in 1793.

In June, 1795, under proceedings in the Orphans' Court of Dauphin county, the property was sold to Henry Orth, a son of Adam Orth, who sold it to Henry Meyer, in January, 1797. In August of the same year Henry Meyer sold it to John Elder and John Kean, trading under the firm name of Elder & Kean, and in September, 1808, John Kean sold his interest to John Elder. John Elder died intestate in 1811, and on May 14, 1814, his administrators sold the property to Thomas Masterson, who sold a third interest in it to Joseph Atwood, June 15, 1814, which was reconveyed to Thomas Masterson, September 9, 1816. On the 8th day of May, 1818, Thomas Masterson sold the property to Samuel Light, (the father of the late John Light, s.s., who was in his day a prominent citizen of North Lebanon, residing in the house now occupied by the Widows' Home). Samuel Light remained the owner of the property up to the time of his death,

and on May 12, 1840, the property was conveyed by his executors, John Light, s.s., and Levi Uhler, to Jacob Light, who was a son of Samuel. During the ownership of Samuel Light the forge was operated at different times, by John R. Davies, and Messrs. Lukens & Wood, the ancestors of the Lukens and Wood families, who are now large iron manufacturers at Conshohocken, Coatesville and Pittsburg, Pa.

Under the management of Messrs. Lukens & Wood, in 1837-38, they introduced the method of utilizing the forge cinder which had accumulated for years, and which was considered to be valueless, by breaking it up in a stamp mill and re-melting it in a hot blast crucible, and then again converting it under the forge hammer into blooms weighing about 250 lbs. each. Mr. Cyrus Light, to whom the writer is indebted for information relative to this plant, says, this improvement was considered to be of great value,—in fact a small gold mine, and the process attracted the attention of all the forge owners of Lebanon and adjoining counties, who soon adopted it, to their benefit. Mr. Light has also furnished the following poetic effusion in Penna. German, that was written on the forge hammer at the time his grandfather, Samuel Light, purchased the property, showing that the forge-men were able to hammer out poetry, as well as blooms and bar-iron :

"New Market Forge, du grosses thier,
Du hust verschlungen schon drey oder fehr,
Tswa hust gefressen, der drit hust im rache,
Der fiert wirts ah net orrick long mache."

Jacob Light continued to be the owner of the property up to 1854, when it passed to his sons, Henry and Cyrus Light, who operated the forge up to 1863, when John Light, another brother, became a member of the firm, under the name of H., C. & J. Light. This new firm ran the forge up to 1874, when it passed into the hands of Theodore B. Klein, who continued to operate it nearly a year, when he was succeeded by Samuel Warner, and by Samuel F. Light, who each ran it about a year, when it was abandoned and torn

down. The property is now owned by Mr. Andrew Kreider.

During the ownership of Jacob Light, the forge was leased to Joseph Longenecker and John Early, from April, 1846, to April, 1851,—to Joseph Longenecker and Henry Light from April, 1851, to April, 1853,—and to John Early, Henry Light and Cyrus Light from April, 1853, to April, 1858.

In 1852 Messrs. Longenecker & Light introduced coke as fuel, in place of charcoal, for their run-out fire, and were the first to use it for that purpose, outside of the bituminous coal region. The coke was made in an oven erected at the forge, from coal brought by boat on the Union canal, which was about three miles distant, and after the successful results obtained here, coke came into general use at all forges having run-out fires. Up to about this time charcoal pig iron was used exclusively at all forges in the manufacture of blooms and bar iron, and Messrs. Longenecker & Light were the second party in Pennsylvania, (Martie Forge, in Lancaster county, at that time owned by Mr. G. Dawson Coleman, having preceded them) in substituting anthracite pig iron for that made with charcoal.

The first used by them in January, 1852, cost \$18.75 per ton, at Marietta, Pa., and the blooms made from it brought \$52.00 per ton at Coatesville, Pa., and shortly after this anthracite pig iron came into general use at other forges. A number of improvements were also made in increasing the weight of forge-hammers, the usual weight having been about 500 lbs. This was increased up to 1,000 lbs., and latterly weighed as much as 7,000 lbs., which produced such satisfactory results that large hammers soon came into general use at other plants.

They also experimented in what was called the "direct process" of converting raw iron ore into wrought iron, but as many others have done, failed to make a success of it.

In 1854-55 Messrs. Lights and Early erected a small blast furnace near the forge, using Cornwall ore, but the venture did not prove a success, and the furnace was abandoned and dismantled after a few months' trial.

Colebrook Furnace.

Colebrook Furnace, built by Robert Coleman, in 1781, was located on Conewago creek, about six miles southwest from Cornwall. He was succeeded in ownership by his son, Thomas Bird Coleman, in 1825, who was in turn succeeded by his son, William Coleman, in 1848. After William Coleman's death, in 1861, the property passed to his children, Robert H. Coleman and Anne C. Coleman, (since intermarried with Archibald Rogers.) The furnace was almost continually in operation until 1860, when it was abandoned and afterwards dismantled. The principal product was cold-blast charcoal pig iron; in addition to which, many stoves and other castings were made. The stoves were mostly of the "ten-plate" wood-stove pattern, that were much used locally about fifty years ago, and, no doubt, some with the name of "T. B. Coleman, Colebrook Furnace," cast on the side-plates, can yet be found.

Samuel or "Squire" Jacobs, as he was generally called, was connected with the early management of the furnace. Mr. Henry P. Robeson, afterward the founder of the town of Robesonia, in Berks county, was in charge from 1834 to 1843, and was succeeded by Mr. John Benson, who remained in charge of the furnace until the time of its abandonment in 1860, and of the Colebrook Estate afterward, up to the year 1880, when he removed to the city of Lancaster, where he died in February, 1885.

The late Col. David Steitz Hammond, a great grandson of Geo. Steitz, the founder of Lebanon, first started here as a clerk in 1844, afterward took charge of Cornwall Furnace, and in 1857 he removed to Lebanon, taking charge of Donaghmore, formerly called "Dudley Furnace."

Hon. Geo. H. Boker, in a poem entitled "The Legend of the Hounds," has located the tragic scene of the poem at Colebrook Furnace. The poem begins as follows:—

"Colebrook Furnace in Cornwall stands,
Crouched at the foot of the iron lands,—
The wondrous hill of iron ore

That pours its wealth through the furnace-door,
Is mixed with lime and smothered in wood,
Tortured with fire till a molten flood
Leaps from the taps to the sow below
And her littered pigs that round her glow ;
So that a gazer, looking down
The moulding floor from the platform's crown,
Might think, if fancy helped the spell,
He saw a grate in the roof of hell."

The poem further describes the surrounding country, as waste and barren, and then recounts the doings of a fox-hunting squire, who, disgusted with the failure of his hounds to run down a fox, has ordered them to be cremated in the furnace. The error in locating Colebrook Furnace, at Cornwall, and the further description of one of the garden spots of Pennsylvania, as barren waste, is a piece of "poetic license" that is noticeable all through the poem and an evidence of it being a mere figment of the writer, and inquiry fails to establish any local tradition of the story, which if true, would still be repeated, possibly with some embellishments.

Monroe Forge.

Monroe Forge, (now abandoned,) was located in Monroe Valley, between the Little Mountain and the First Mountain of the Blue or Kittattiny Range, in Bethel township, about three miles northwest of Fredericksburg. It was erected on land purchased from Jacob Behney, by Jonathan Seidel, who moved here from Berks county, and began operations about the year 1835. The forge was a bloomery and had a run-out and four forge fires, and was run by water power. Although charcoal blooms were the principal product, bar iron was frequently made from the blooms. About the year 1838, a small charcoal furnace was erected, adjoining the forge, but was abandoned and torn down a few years later owing, probably, to the scarcity of iron ore in that locality. It must have been in operation in 1840, as Rupp's History of Lebanon county, states that there were three furnaces in the county; that "they

produced 3,020 tons of pig iron per annum," or as much as one of the largest modern blast furnaces will now produce in four days.

Jonathan Seidel conveyed the property to his son, Henry B. Seidel, on the 27th day of March, 1854. On April 19, 1856, Henry B. Seidel sold a third interest in the property to Philip W. Killinger, and the firm name was changed to Seidel & Killinger, and on December 28, 1861, Mr. Seidel sold his two-thirds interest to Hon. John W. Killinger, who purchased Philip W. Killinger's interest December 5, 1864. On March 28th, 1866, the entire property was conveyed to Philip W. Killinger, who continued operating the forge up the spring of 1868, when it was abandoned, and afterwards torn down, and all the real estate was sub-divided and sold by Henry Shenk and Wm. M. Killinger, assignees of Philip W. Killinger,—the part occupied by the forge, including the dams, being now owned by the Estate of John H. Lick, deceased.

Myerstown Foundry.

The first foundry erected at Myerstown, in Jackson township, was built about the year 1838, by Daniel Meyer, on the lot now occupied by the residence of Dr. William Bowers, on North street. As the cupola for smelting the iron was small, it was blown by a blower or fan run by horse-power. The product was principally stoves and small castings for agricultural implements and for farm use.

The foundry was run for some years on this site, when it was torn down and re-built at the Union Canal, south of the town, on the site now occupied by the foundry and machine shop of Mr. Jos. Painter, Sr.

The new foundry was built by William Meyers and was larger than the original had been, and was run in connection with an adjoining steam grist and saw mill erected a few years later. It continued in operation under the successive ownership of William Meyers, Judge Deppen, and others, and Jonathan Miller until 1871, when the entire plant was destroyed by fire. In 1872 the site was purchased by Joseph Painter,

Sr., who erected a new and larger plant, which was again destroyed by fire in 1885. It was again rebuilt by Joseph Painter, Sr., who is the present proprietor. The product of the foundry is principally boiler fronts, engine and general castings, although it is equipped to do all kinds of furnace and mill work. Joseph Painter, Sr., is the present owner, though Joseph Painter & Sons has been the firm name for the past sixteen years.

Lebanon Furnaces.

The iron industry in Lebanon county made little or no advancement from the condition it was in at the close of the eighteenth century, (as but one new blast furnace was erected) until the years 1846-47, when the successful use of anthracite coal, in connection with the hot blast, in other localities, induced Messrs. Robert and George Dawson Coleman to erect the "Lebanon Furnaces" on the Union Canal, about a mile northwest of the town of Lebanon.

Prior to the year 1836 charcoal was the only fuel used in the manufacture of iron, in eastern Pennsylvania, although coke was used to a limited extent, in addition to raw coal, in the bituminous coal region.

Rupp, in his history of Lebanon county, states that "according to the census of 1840, there were three furnaces in the county, and they produced 3,020 tons of cast iron; three bloomeries and forges, which produced 297 tons of bar iron; the furnaces and forges consumed 6,108 tons of fuel, employed 231 men, including mining operations,—capital invested, \$233,000." The three furnaces referred to were the Colebrook, Cornwall and the one erected in 1838 or '39 by Mr. Jonathan Seidel, at Monroe Forge. The forges were New Market, Union and Monroe.

As the use of anthracite coal for the reduction of iron ore gave an impetus and practically revolutionized the iron industry in eastern Pennsylvania, a short account of the difficulties encountered by its use by the Pioneers of the Anthracite Furnace industry, may prove interesting. Mr. Swank, in his

work on Iron Making in Pennsylvania, states that the first reported use of anthracite coal in a blast furnace was at Harford Furnace, in Maryland, where in the year 1815 equal parts of anthracite coal and charcoal were used. The results, however, were not satisfactory, but they did not deter other furnace owners from also trying the experiment at different times thereafter at several furnaces with the same unsatisfactory results.

In 1828 James B. Neilson, of Scotland, obtained a patent for the use of hot air in the smelting of iron ore in blast furnaces, and in 1829 pig iron was made at several furnaces in Scotland with the apparatus he had invented, but the coal used was bituminous, and it was not until 1836 that the smelting of iron ore with anthracite coal by means of the hot blast invented by Neilson, was undertaken in Great Britain.* In the meantime the application of hot blast to anthracite coal in American furnaces was successfully experimented on by an enterprising German-American, the Rev. Dr. Frederick W. Geissenhainer, a Lutheran clergyman of New York City. His first experiments were made in December, 1830, and the first three months of 1831, in a small experimental furnace in New York City. He filed claims for a patent for his invention on fifth day of September, 1831, and the patent was granted to him on the 19th day of December, 1833, for "a new and useful improvement in the manufacture of iron and steel, by the application of anthracite coal." Dr. Geissenhainer had long been engaged in the development of the coal and iron industry

*In that year letters patent were granted by the British government to George Crane, of South Wales, Great Britain, for the use of anthracite coal in the manufacture of pig iron, and on November 29, 1838, a similar patent was granted to him by the United States Patent Office on his claim of being the inventor and discoverer of the use of anthracite coal for smelting iron ore into pig iron.

Dr. Geissenhainer's executors having filed a caveat against the claims of George Crane, their differences were settled by Messrs. A. C. & Robert Ralston, of Philadelphia, who were the attorneys of Mr. Crane, paying the said executors the sum of \$1,000, and receiving therefrom the assignment of Dr. Geissenhainer's patent.

All of the original papers relating to the Crane patents, both in Great Britain and in the United States, together with the assignment of Dr. Geissenhainer's patent, are now in the archives of the Lebanon County Historical Society, having been kindly presented to the Society by Mr. J. Milton Mays, of the city of Philadelphia.

of Pennsylvania, having been operating bituminous coal mines in Clearfield county as early as the year 1811, and a few years later he owned and operated a charcoal furnace in that county. A short time prior to 1830 he also owned and operated a charcoal furnace in Schuylkill county, and it was near this furnace that he erected what was called "The Valley Furnace" and first made a practical and successful application of his invention in 1836. Dr. Geissnhainer was born in Muhlberg, Saxony, in 1771, and died in New York, in 1838.

It has also been stated that he died at Lebanon, Pa., where he had long resided. This is evidently an error, as none of our older citizens, to whom the writer has spoken, can call to mind any one of that name.

After the successful use of anthracite coal at the "Valley Furnaces" other plants were erected, and in 1840 there were six blast furnaces in Pennsylvania that were using anthracite coal. In 1846 there were 42 anthracite furnaces in Pennsylvania and New Jersey, and in 1856 there were 121 in the United States, of which 93 were in Pennsylvania.

As before stated, the "Lebanon Furnaces" were the first, or pioneer anthracite blast furnaces, erected in Lebanon county. They were built by Messrs. Robert and George Dawson Coleman, after the most approved plans then known.

They were begun in 1846, and the first furnace was blown in in February, 1847, and the second or No. 2 furnace, in the spring of 1848. The furnace stacks were built of limestone, lined with fire brick, and were 40 ft. square at the base, 30 ft. square at the top, and were 35 ft. high. Each furnace had a 5½ ft. crucible, 14 ft. bosh, and a 6 ft. opening at the top, and had three tuyere and one fore part arches. They were equipped with one cast iron pipe hot-blast stoves for each furnace, four sets of two-flue cylinder boilers and two 6x6 ft. geared blowing engines. The furnace stacks were built in the then prevailing style, and were known as "bank furnaces," that is, they were built in an excavation in the

side of a hill, thus bringing the top of the furnace level with the floor of the stock house, which was placed at the rear of the furnace,—the vertical hoists and incline planes now in general use having been adapted to blast furnaces at a later period.

When the furnaces were first blown in on Cornwall ore and anthracite coal, owing to a lack of experience, the combination did not prove to be a success, as the furnace worked irregularly and gave unsatisfactory results. However, after several "blow outs" and changes in the method of charging the furnace, better results were obtained and success was assured. The yield or product of each furnace, when working well, was from 6 to 8 tons of pig iron per day, using from $2\frac{1}{2}$ to 3 tons of anthracite coal, and about $2\frac{1}{4}$ tons of Cornwall ore per ton of iron made. Shortly after the completion and satisfactory running of the furnaces, a large pipe foundry was erected near the works, at which cast iron pipe of all sizes was made. It continued in operation until shortly after the war of the Rebellion, when owing to a scarcity of men and other subsequent events, it was abandoned.

In 1852 Mr. Robert Coleman withdrew from the furnace business (having sold his interest to his brother, Mr. George Dawson Coleman,) and started in the iron commission business with Mr. Kelton in Philadelphia.

Shortly afterward he went to the city of Paris, in France, where he resided up to the time of his death, July 26th, 1878.

Mr. George Dawson Coleman, having assumed the entire ownership of the plant, became one of the most prominent and progressive iron manufacturers in Pennsylvania. He made many changes and improvements, and successfully operated the furnaces up to the time of his death, September 9th, 1878. He was succeeded by his widow, Mrs. Debbie B. Coleman, in the ownership of the plant, which was run under the management of Messrs. Arthur and Horace Brock. After the death of Mrs. Coleman, which occurred August 19, 1894, the plant passed to the control of her sons, Messrs. B. Daw-

son and Edward Coleman, who operated it up until July, 1901, when it was purchased by the Pennsylvania Steel Co., Mr. B. Dawson Coleman still continuing to be general manager.

In 1864 Mr. G. Dawson Coleman erected an experimental furnace, a short distance southwest of the other furnaces, in which it was intended to reduce iron ore with anthracite coal, using either a cold or a hot blast.

The furnace, however, did not prove to be a success, and after several trials it was abandoned and was subsequently torn down. In 1872 a fourth furnace stack was erected adjoining the first two erected in 1847-48, and was called Furnace No. 3. This stack was built with all the latest improvements known at that time, and had a mantel and column base and a cylindrical plate-iron casing. It had a 6-foot crucible, 16-foot bosh and a 9-foot opening at the top and was 54½ feet in height, and was equipped with a bell and hopper charging apparatus, (the other two furnaces having open tops). New Player iron pipe hot blast stoves, duplex cylinder boilers, and a 7x7-foot vertical I. P. Morris blowing engine, together with a pneumatic hoist to charge the furnace, were also added. No. 3 furnace gave a largely increased yield above that of the old furnaces, and although anthracite coal only was used as fuel, it produced from 150 to 200 tons per week, when first started, which output was subsequently increased by the use of roasted ore, which was prepared in Swedish or Gjerns kilns, specially built for this purpose,—and which, by the way, were the first to be erected in this country to roast sulphurous ores, the first or experimental kiln having been erected by Mr. Coleman in 1866.

This furnace was remodeled in 1883, and equipped with three Whitwell hot blast stoves, and otherwise improved, which changes, with the use of coke for fuel, increased the product to about 700 tons of pig iron per week.

In 1895 it was again remodeled and enlarged and raised to 80 feet in height, which, with other improvements made, increased the output to upwards of 1,200 tons per week.

Nos. 1 and 2 furnaces were also improved and remodeled from time to time, but were finally dismantled and torn down—No. 1 in 188 , and No. 2 in 1893, and on their site has been erected the largest and latest improved blast furnace in Lebanon county and east of the Alleghenies.

This furnace has a mantel and column base, plate iron casing and is 100 feet in height. It is blown through 16 tuyeres, and is charged by means of an automatic charging apparatus, the cars containing the coke, etc., being hoisted over an inclined plane from the stock house located a short distance in front of the furnace,—a somewhat similar arrangement being used at No. 3 furnace

The coke, ore and limestone charged in the furnace are all drawn from immense hoppers in the stock house into the charging cars, thus dispensing with the usual manual labor employed for that purpose.

The equipment consists of a compound condensing blowing engine, capable of blowing 30,000 cubic feet of air per minute at an ordinary pressure, or a pressure of 30 lbs. blowing a minimum quantity of air. There are also four Massick & Crooke fire brick hot blast stoves, a number of batteries of Babcock & Wilcox water tube boilers, besides the latest improved pumps and water cooling appliances. The plant is also equipped with a Uehling pig casting machine by means of which the molten iron from the furnaces is run into moulds, then cooled in water, and is automatically loaded on cars ready for shipment.

The ore used at the furnaces is all from the Cornwall mines and is first roasted by means of furnace gas in a large double kiln erected west of the furnaces—the preparation, charging and drawing of the ore from the kilns being all effected by means of mechanical appliances. Since the furnaces have passed into the hands of the Penna. Steel Company numerous other modern improvements and additions have been made, including the erection of a Semeut-Solvay bi-product coking plant.

The capacity of the two furnaces is upwards of 400 tons of pig iron per day, and the entire plant reflects great credit on the enterprises of the former managers, Messrs. B. Dawson and Edward Coleman, and the present general manager, Mr. B. Dawson Coleman.

Chas. B. Forney was the superintendent of the furnaces from their inception up to 1875, when he was succeeded by H. T. Euston who occupied the position up to 1900, when he was succeeded by Mr. Arnold K. Reese, who in turn was succeeded by Mr. Norman Shearer, the present superintendent.

The North Lebanon Foundry.

The North Lebanon Foundry was built in 1849 by Messrs. John Shay, John Thomas and Cyrus Mutch on land temporarily leased from the Mifflin Estate, on the northwest corner of Walnut (now North Eighth street) and Water streets, in the town of North Lebanon. Mr. Shay withdrew from the firm shortly thereafter. In 1851 Mr. Thomas Forster, who had previously been manager of Cornwall Charcoal Furnace, purchased the interest of Mr. Thomas, and the name of the firm became Forster & Mutch, who conducted a general foundry business up to 1864, when Mr. Mutch withdrew from the firm, selling his interest to Mr. Forster, who conducted the business up to January, 1868, when he sold the plant to Messrs. Rosenberger, Light & Co. The latter firm conducted the business for a time when, owing to financial difficulties, the property was sold to Messrs. Reinoehl & Meily in January, 1875, who shortly thereafter sold it to Messrs. Samuel Light, Ezekiel Light, Stephen Light, Gideon Light, Daniel W. Zellers and H. B. Westerberger who, on March 11, 1882, sold the plant to the Lebanon Stove Works Company, who are now conducting the business of making stoves and other castings. During the ownership of Messrs. Rosenberger & Light the foundry was destroyed by fire, and in its place a large and commodious brick building was erected for foundry purposes.

The Cornwall Anthracite Furnaces.

The Cornwall Anthracite Furnaces, at Cornwall, in Cornwall township, were erected by Mr. Robert W. Coleman and his brother, Mr. William Coleman, under the firm name of R. W. & W. Coleman, on land purchased of Peter Smith, located a short distance north of the Big Ore Hill. The first or No. 1 furnace was begun in 1849 and was blown in June 9th, 1851. The second, or No. 2 Furnace, was erected adjoining the first in 1852-53, and was blown in in 1854. The furnace stacks, which were modeled after the stacks of the North Lebanon furnaces, erected by Messrs. R. & G. D. Coleman, were built of red brick made on the premises, as were also the engine house, casting houses and stock house.

They were equipped with cast iron pipe hot blast stoves, single cylinder boilers, and two vertical blowing engines coupled together. The stacks were each 40 feet square at the base and 30 feet square at the top, and were 35 feet in height, and had each three tnyere arches, and one tym p or fore-part arch. They were erected, according to the prevailing plan in use at this time, against a bank or hill side, thus bringing the top or tunnel head of the furnace on a level with the floor of the stock house. The hearths and crucibles of the furnace stacks were lined with a conglomerate sand stone, and the balance of the lining or in-wall was made with fire brick blocks, 16 inches in length, with 6-inch square face and widened at the outside to conform to the circle in which they were laid. The crucibles were $5\frac{1}{2}$ feet, the boshes 14 feet, and the top opening six feet in diameter.

As indicated by their name, anthracite coal was the first fuel used in the furnaces. and it was used exclusively up to 1882, after which time a portion of coke was substituted. Cornwall ore only was used up to the year 1866, when a portion of hematite ore and mill cinder were used for a short time in addition.

The principal product was pig iron, although many castings were made in 1872-73 for North Cornwall and Bird

Coleman furnaces, then in course of erection, and also for Donaghmore furnace, which was remodeled a few years later.

After the death of William Colemau, in 1861, his interest in the property was retained by his estate, the name of the firm remaining unchanged until after the death of Robert W. Coleman, in 1864, when it was changed to R. W. Coleman Heirs & Co., composed of Anne C. Alden, Margaret C. Freeman, Sarah H. Coleman, sisters of Robert W. Coleman, and Robert H. and Annie C. Coleman, minor children of William Coleman, deceased.

This firm continued to operate the furnaces until 1882, when under proceedings in partition, it was purchased by Mr. Robert H. Coleman, who retained the plant until 1894, when it was sold to the Lackawanna Iron & Steel Company, who are the present owners. The furnaces were operated by the last named company four years when they were abandoned and dismantled.

Major Benjamin Mooney was in charge of the plant from the time of its erection up to 1857, when he was succeeded by Mr. Artemus Wilhelm, who remained in charge until January, 1882. He was succeeded by Messrs. Hugh M. Maxwell, B. F. Hean, Sterling Valentine, successively, during the ownership of Robert Coleman, and by Messrs. Sterling G. Valentine, David Baker, Andrew Brady, F. L. Grammar, Herbert B. Cox, and S. S. Hartrauft, under the ownership of the Lackawanna & Iron and Steel Company.

The Dudley Furnace.

The Dudley Furnace (afterward called Donaghmore Furnace) was built in 1854 by the Dudley Iron Co., composed of Messrs. Simeon Guilford, John Krause, Levi Kline, John Weidman, and Jefferson Shirk. The site selected for the erection of the plant was purchased from Messrs. John George & Co., Frederick Weiss and others and was located west of the North Lebanon, now Cornwall railroad, between Chestnut and Cumberland streets, at the confluence of the Brandywine run with the Quittapahilla creek.

The furnace was built from plans made by Mr. Simeon Guilford, who had been a civil engineer employed in the construction of the Union Canal in 1823-27, and who was later on identified with the pioneer pig iron manufacturers of Pennsylvania, having been a part owner of the "Swatara Furnace," in Schuylkill county, for a number of years. He was also the discoverer and owner of several hematite ore mines near Cornwall, Pa.

The general design of the plant was similar to that of the "Brooke Furnaces," at Birdsboro, Pa., which were taken as a model,—the furnace stack, engine and casting houses being substantially built of lime stone. The furnace was built along side of a natural lime stone bluff,—the stack and the casting and stock houses being placed on the lower level and the boilers and engine house on the upper.

It was equipped with a double cylinder horizontal blowing engine with a central crank shaft and one fly-wheel; two batteries of cylinder boilers erected on the bank, and one iron pipe hot blast stove erected on top of the furnace stack. This stack had one tympan or fore-part and three tuyere arches, a 5-foot crucible and 13-foot bosh, and was 35 feet in height; it had an open top and was charged by means of an inclined plane running from the stock house to the top of the stack. The fuel used was anthracite coal, which with rawsulphurous Cornwall ore, (the advantages of roasted ore being yet unknown) gave rather irregular results, both in the quality as well as in the quantity of pig iron produced, during the two years the furnace was operated by the Dudley Iron Company. In the spring of 1857 the company sold the plant to Mr. Robert W. Coleman, of Cornwall, who changed its name to "Donaghmore Furnace." Mr. Coleman made a number of changes and the furnace gave satisfactory results up to 1873, when it was thoroughly remodeled by Mr. A. Wilhelm, Atty., &c., for R. W. Coleman heirs, who erected two new and larger iron pipe hot blast stoves, and added seven feet to the height of the furnace and equipped it with a bell and hopper charging apparatus and a number of ore roasting kilns. In

January, 1882, under proceedings in partition, the property was purchased by Anne C. Alden, Margaret C. Freeman and Sarah H. Coleman, and in 1886 it was transferred to "The Cornwall Iron Company, Limited," the present owner. In 1885 the plant was again remodeled and two batteries of Duplex boilers and a Weimer vertical blowing engine were added. The furnace continued in successful operation up to 1890, when it was abandoned and gradually dismantled.

Mr. Jefferson Shirk was in charge of the furnace during the ownership of the Dudley Iron Company, and was succeeded by Col. D. S. Hammond immediately after it was purchased by Mr. Coleman, Col. Hammond leaving a similar position at Cornwall furnace. He remained in charge up to the time of the abandonment of the furnace, and resided on the premises at the time of his death in April, 1897.

The Weimer Machine Works Company.

The Weimer Machine Works were established January 1, 1856, by William Weimer, in company with two of his sons, P. L. Weimer, and Lucien E. Weimer, and began operations in what was known as the Phraeuer Foundry, on Seventh street. At this time the business was small, including foundry and machine work, but the same year they broke ground for the erection of a new plant facing the station of the P. & R. railroad, east of Eighth street, and when suitable buildings were erected moved the plant and began business at the new place January 1, 1857, where they have continued with greatly enlarged and extended facilities. In 1860 William Weimer retired from active business, turning the same over to his sons, P. L., John A. and Lucien E., and they continued the business under the firm name of P. L. Weimer & Bros. In 1879 the firm name was changed to that of Weimer Bros., the members being the same. In September, 1879, John A. Weimer died, and in 1880 the company was incorporated as The Weimer Machine Works Company, with P. L. Weimer as President and Chief Engineer, and L. E. Weimer as Treasurer and General Manager. The company does a

general machine and foundry business and manufactures specialties for furnaces, the latter being made from patents owned by the company. The works are the oldest in that line in Lebanon county and have enjoyed uniform success, the company being the pioneer manufacturing plant in the city. For almost three years during the Civil War the Weimer works were operated day and night, making gun lathes for the Scott Foundry, of Reading, Pa., to manufacture cannon for the government's use on fortifications and vessels. They also manufactured some five hundred wrought iron field pieces.

Lebanon Steam Forge.

Lebanon Steam Forge, (now West End Rolling Mill Co. & Chain Works,) the first of the kind erected in Lebanon county, was built in 1857 by Messrs. Henry B. and John B. Seidel on land purchased for the purpose from Dr. John W. Gloninger and Daniel Stichter, located on the northwest corner of Cumberland street and the then North Lebanon, now Cornwall railroad, in the city of Lebanon. The original plant consisted of but one large frame building erected along Cumberland street in which were placed six heating fires, steam boilers, engine, shears and trip-hammer. The product consisted principally of merchant bar iron and special shapes under the trip-hammer, it being made from wrought scrap iron cut to lengths, piled and heated to a welding heat with charcoal as fuel. On March 30, 1863, Mr. Seidel sold the plant to Messrs. David Mitchell, of Lebanon, and William Wiley, of Lancaster, Pa., Mr. Mitchell superintending its operation, and on October 28, 1865, Mr. Wiley sold his interest to Wm. Van de Sande, of Lebanon. The firm name then became Mitchell & Van de Sande, and the plant was operated by the owners until June 28, 1869, when Mr. Mitchell sold his half interest to Mr. Van de Sande. On February 28, 1870, Mr. Van de Sande sold a half interest in the plant to J. R. Evans, who in turn sold it to Jacob Capp October 2, 1871. The name of the firm was now Van de Sande & Capp, and

continued up to April 1, 1834, when Mr. Van de Sande sold his half interest to Mr. Capp. During the ownership of Messrs. Van de Sande & Capp many changes and improvements were made to the plant. The old forge building was converted into a merchant bar iron rolling mill and a new and larger rolling mill was erected north of the old one.

On the third day of April, 1884, Mr. Capp, retaining a half interest in the plant, sold the remainder to Messrs. T. T. Worth, J. Henry Miller, Jacob M. Shenk, Henry M. Capp, Geo. R. Ross, Trustee, E. M. Woomer and Christian Shenk, and, on the formation of the West End Rolling Mill Company the entire property was conveyed to it on the eighth day of April, 1884.

The West End Rolling Mill Company, which is the present owner of the plant, has also made many changes and improvements, the principal one being the erection of a large chain works along the line of the Cornwall railroad in which all sizes of chains are manufactured, the principal sizes being the large heavy chains used on ship-board and for anchoring buoys, the most of which are sold to the United States Government, and are of a very high standard in quality. The present officers of the company are C. Shenk, President; J. R. Evans, Secretary, and H. M. Capp, Treasurer and General Manager.

In 1863 Messrs. Michael Louser & Son erected a small frame foundry building on the north side of West Cumberland street, on land formerly a part of "Bowman's Tannery," at which light castings were made, principally for railings and fences. It continued in operation a few years, when it was abandoned and sold to Wm. B. Reinhard, who erected a stone crusher in the building, which was afterward operated by his son, Joseph Reinhard, who sold the property to Mr. J. H. Kreider, of Annville, who removed the frame building and erected the brick building now occupied by the Lebanon Paper Box Company.

Lebanon Iron Company.

In 1865 a charter was granted to Messrs. Artemus Wilhelm, of Cornwall; D. S. Hammond, A. R. Boughter, Wm. Shirk, and P. L. Weiner, of Lebanon, associated under the name of "Aurora Iron Company," who erected a plant on land purchased from John G. Snively, a short distance east of Fourth street and south of the Lebanon Valley railroad, in the then borough of Lebanon, for the purpose manufacturing butt weld wrought iron pipe.

Owing to defects in the machinery and appliances and other causes the venture did not prove to be a success and after a number of trials the manufacture of pipe was abandoned and the company was re-organized in 1882 by Messrs. Robert H. Coleman, A. Wilhelm, of Reading; D. S. Hammond, A. Hess, Thomas Evans and H. M. Maxwell, and the name of the corporation was changed to Lebanon Iron Company.

The first officers of the new company were Robert H. Coleman, President; A. Hess, Secretary and Treasurer, and Thos. Evans, General Superintendent, with A. Wilhelm and D. S. Hammond, Directors. The new company re-constructed and enlarged the plant, converting it into a bar iron rolling mill. This was added to from time to time as the business of the company increased, until it had a capacity of tons finished iron per week.

In July, 1889, the company became merged in the American Iron & Steel Company, who are now operating the plant. The last officers of the Lebanon Iron Company were J. M. Shenk, President; A. Hess, Secretary and Treasurer, and Thos. Evans, General Superintendent.

Lebanon Valley Furnace.

Lebanon Valley Furnace, located in the western portion of the city of Lebanon, on the Brandywine run, between Forge street and the Lebanon Valley railroad, was erected in 1867. Building operations were begun in June and the furnace was

finished and blown in on the 22nd day of December of that year. The original owners and projectors were Messrs. John Meily, Henry J. Meily, Lyman Nutting and Richard J. Meily, under the firm name of Meily & Co.

In 1869 Henry J. Meily withdrew from the firm, Mr. Nutting also withdrawing in 1874. The firm name was then changed to Messrs. J. & R. Meily. Mr. John Meily having since died, the plant has passed into the hands of the Lebanon Valley Furnace Company, composed of Mr. Richard Meily, the heirs of John Meily and Gen. E. Burd Grubb.

The casting and engine houses of the plant were built of brick, and the base of the furnace stack was made of limestone, surmounted by a wrought iron jacket or casing. The stack has three tuyere and one fore-part arches and is blown through four tuyeres. The original had a 12-ft. bosh and was 36 ft. in height, and had an open top with a hood or fender to deflect the furnace gas to the gas flue. It was equipped with two batteries of shell boilers and one iron pipe hot blast stove, and was blown by a vertical I. P. Morris blowing engine, with 26-in. diam. steam cylinder, 60-in. blowing cylinder and 5-ft. stroke. The stock used in the furnace is elevated to the top over an inclined plane by means of a steam hoist.

The ore used has been principally from the Cornwall mines and is roasted and desulphurized in four Giers kilns located at the foot of the inclined plane. Anthracite coal was used exclusively as fuel up to the time of the enlargement of the furnace in 1883, since which time coke has been substituted. In 1882, owing to the blowing engine then in use being too small, a Weimer vertical 48x84x48-in. engine was added to the plant. In 1883 the furnace was remodeled and raised to 60 ft. in height, and equipped with a bell and hopper charging apparatus. Two 18x60-ft. Whitwell hot blast stoves, with draft stack, were also added. This change increased the output of the furnace from 100 tons of pig iron per week to upwards of 450 tons per week.

In 1895 two batteries of Babcock & Wilcox water tube

boilers were added. and in the summer of 1900 another battery of 250 horse power Sterling water tube boilers.

The Lebanon Valley Furnace, although but a small plant, has a good record and, excepting the time it was being repaired or enlarged, has been in continuous operation since it was first blown in.

The Lebanon Manufacturing Company.

The Lebanon Manufacturing Company, whose works are located on the southwest corner of North Tenth street and the Lebanon Valley railway, was chartered in 1867, its first officers being Dr. C. D. Gloninger, President; John B. Rauch, Secretary; E. A. Uhler, Treasurer; J. M. Gettel, Superintendent, the remaining directors being David Mitchell, Henry Shenk, Geo. Krause, Wm. Eckenroth, Adolphus Reinoehl, George Rigler and Levi Wolf.

The foundry and machine shops, which were erected in 1867-68, were built of brick, and the other buildings of frame. Originally the intention of the company was to engage in the manufacture of agricultural implements, and for a time the works were commonly called the Lebanon Agricultural Shops. This intention, however, was soon abandoned and the works were soon engaged on general foundry and machine work. In 1870 the building of freight cars was begun and has since become a very important part of the business of the company. In January, 1873, a portion of the original buildings was destroyed by fire.

New and enlarged buildings were soon added and operations at the works were suspended but for a short time.

In 1886 a new and commodious foundry was erected along North Tenth street, with the latest improved overhead traveling crane and larger cupolas for smelting iron. The machine shop was also enlarged and a new brick blacksmith shop was erected with all the latest improved machinery. The works have built a number of large engines for both furnace and mill work, and have furnished large quantities of castings for furnaces at Lebanon, Cornwall, Robesonia, Pottstown and

other places. The number of men employed, when working full time in all departments, is about five hundred.

The officers of the company in 1902 were Richard Meily, President; John A. Donges, Vice President; John Hunsicker, Secretary; Geo. H. Spang, Treasurer; J. M. Gettel, Superintendent. Directors, Richard Meily, John A. Donges, Geo. H. Spang, J. M. Gettel, Rudolph Herr, H. A. Reinoehl, Frank E. Meily, Wm. P. Nutting, Chas. E. Rauch, Grant Weidman, Jr., John K. Reinoehl and John Hunsicker. The plant is now operated under a lease by "The Treadwell Manufacturing Company."

The Bird Coleman Furnaces.

The Bird Coleman Furnaces were erected by R. W. Coleman heirs on the north slope of Grassy Hill, of the Cornwall ore banks, under the general Superintendency of A. Wilhelm, attorney-in-fact, and J. P. Jackson, manager. No. 1 furnace was erected in 1872-73 from plans made by Messrs. P. L. Weimer and A. Wilhelm, and was a duplicate of North Cornwall Furnace, also erected at that time, and was furnished with the same equipment. The stock and casting houses were built of brown sandstone from the Cornwall hills, and the engine house of brick made on an adjoining farm. The furnace was first blown in in December, 1875. No. 2 furnace was built in 1880, and was blown in and run for a short time in 1881.

In January, 1882, owing to a partition of the Cornwall estate, Mr. Wilhelm retired from the control as attorney in-fact and was succeeded by W. C. Freeman, Esq., as the representative of R. W. Coleman heirs, the furnaces being placed in charge of H. C. Grittinger, who remained in charge until 1887, and who was succeeded by Andrew Brady. In 1884-85 the furnaces were dismantled and rebuilt, and greatly enlarged. All the pipe hot blast stoves and boilers were removed and eight 20x60-ft. Whitwell stoves with a 160-ft. draft stack erected. The furnace stacks were provided with new column and mantel bases and were made 75 ft. in height,

with 10½ ft. crucibles, 17-ft. boshes, and had seven tuyeres each. They were also equipped with new steel hoist towers, with steam vertical hoists, and with improved charging apparatus, and the top of both furnaces were connected with a steel bridge. Six batteries of Duplex shell boilers of 200 horse-power each, and two batteries of Babcock & Wilcock water tube boilers of 250 horse-power each, a new engine house with two 48x84-in. Weimer blowing engine, new pump house with Worthington pumps for boiler feeds were also erected. The ore roasting kilns were re-constructed and increased to 28 in number, and have since been provided with a draft stack 225 ft. high with connections to carry off the sulphurous gases. The water supply was also improved by a new system of pipe and the erection of a new pump house and powerful pumps, and two batteries of water tube boilers. After the plant was completed it was considered one of the most complete in Eastern Pennsylvania. In 1885, the owners of the plant, Mrs. Anne C. Alden, Mrs. Margaret C. Freeman and Miss Sarah H. Coleman, formed a limited company partnership called the "Cornwall Iron Company, Limited," taking in as additional members of the company Messrs. W. C. Freeman, E. C. Freeman and R. Percy Alden. W. C. Freeman was elected Chairman and Treasurer, and R. P. Alden Secretary of the company. Mr. W. C. Freeman remained in control as chairman of the company until January, 1897, when he resigned and was succeeded by Capt. B. H. Buckingham, who was taken in as a member of the company. In January, 1898, the furnaces were leased to the Lackawanna Iron & Steel Company, who are now in possession.

North Cornwall Furnace.

North Cornwall Furnace, located on Furnace creek, about one mile north of Cornwall station, in Cornwall township, was erected in 1872-73 by Mrs. Margaret C. Freeman, who was represented by her son, W. C. Freeman, Esq., General Superintendent, and H. C. Grittinger as Manager. The

plant was designed by Messrs. P. L. Weimer and A. Wilhelm, and was erected on the most improved plans known at that time. The furnace had a mantel and column base and plate iron casing and was 52 ft. in height, with an 8 ft. crucible, 15-ft. bosh, and 10-ft. opening at top, and was fitted up with a bell and hopper charging apparatus and had five tuyeres. It was equipped with two Player hot blast pipe stoves, two batteries of shell boilers, one 84x84-in. Weimer vertical blowing engine, two deep well pumps and engines, pneumatic hoist and necessary boiler feed pumps. The engine and casting houses were built of brick and the stock house of limestone. Owing to business depression the furnace was not blown in until November, 1875. Anthracite coal was the only fuel used up to 1882, when a portion of coke was substituted. Cornwall ore has been used exclusively at this plant since it was started. At first about three-fourths of surface ore and one-fourth of calcined ore was used,—the later was gradually increased in quantity, however, and to this plant belongs the credit of being the first to use all roasted Cornwall ore. The output of the furnace at first averaged about 120 to 140 tons per week, but by the use of coke and all roasted ore it was increased to above 450 tons per week. In 1881, anticipating the erection of another furnace stack, an additional 84x84 in. Weimer blowing engine and another casting house was erected, but the completion of the balance of the work was indefinitely postponed. In 1890 the plant was rebuilt and a new furnace stack was erected on the site of the old one. It had a new column and mantel base, and was 80 ft. in height, with an 11-ft. crucible, 18-ft. bosh and nine tuyeres. It was further equipped with a Crane steam vertical hoist, improved charging apparatus, three 20x60-ft. Whitwell hot blast stoves with a 160-ft. draft stack, 480 horse-power Babcock & Wilcox and 500 horse-power Cahall water tube boilers in addition to the Duplex shell boilers originally erected. No new blowing engines were required, as those previously erected were considered ample for the increased size of the furnace. The plant was also equipped with ten improved ore roasting kilns.

Owing to the limited demand for pig iron and other causes the furnace was not blown in until the spring of 1898, and has since that time been in the possession of the Lackawanna Iron & Steel Company, Lessee.

Colebrook Furnaces.

Colebrook Furnaces, situate in West Lebanon township, adjoining the western boundary of the city of Lebanon, were erected by Mr. Robert H. Coleman in 1880-81 on land formerly known as the Jacob Funck and John Funck farms, purchased by him from Messrs. Josiah Funck and Andrew Light.

The site was selected on account of the proximity to the Philadelphia & Reading railway and the Cornwall railroad, as well as the water supply of the Quittapahilla creek running through the property purchased. The furnaces were erected under the supervision of Mr. Chas. B. Forney, the veteran furnace manager, and were considered at the time of their erection to be the most complete and elaborate in the United States.

The engine house, casting house and stock house were all built of dressed limestone with sandstone trimmings, and the interior of the engine house was faced with Philadelphia pressed brick. The furnace stacks were constructed with cast iron columns and mantel bases, and plate iron jackets or casings,—the style adopted in all modern furnaces. They were both 55 ft. in height, with 8-ft. crucibles, 16-ft. boshes, and 10 ft. in diameter at the stock line, with six tuyeres each, and were equipped with bell and hopper charging apparatus. The plant also had two 84x84-in. blowing engines, four batteries of Duplex shell boilers of 250 horse-power each, six Whitwell fire brick hot blast stoves, each 18x60 ft., with the necessary draft stack. These stoves, by the way, were the first erected in Lebanon county of that kind.

The plant was also equipped with pneumatic hoists to raise the stock to the top of the furnaces; also with the necessary boiler and water supply pumps, and 24 Giers' ore roasting kilns erected north of the stock house for the purpose of de-

sulphurizing the Cornwall ore used in the furnaces. The first electric light plant in Lebanon county was also erected here, the Edison system being used.

No. 1 furnace was blown in in October, 1881, and No. 2 furnace in August, 1882. These furnaces, with the improved appliances, produced quite an increase in out-put over the product of the old style furnaces, and led to the adoption of the Whitwell stoves at other plants in the neighborhood. As an increased size indicated an increased product No. 1 Furnace was rebuilt and enlarged to 80 ft. in height, with 18-ft. bosh in 1887, and was also furnished with a steel hoist tower and a steam hoist; an additional blowing engine was also erected.

These changes increased the out-put from 70 to 125 tons of pig iron per day, and resulted in the enlargement of the other furnace to the same size in 1889. Since then additional boilers and hot blast stoves have been added to the plant, and have added to a further increase in the product of the furnaces.

In 1894 the property was sold to the Lackawanna Iron & Steel Company, of Scranton, Pa., who are the present owners.

The furnaces were successively under the management of Messrs. Charles B. Foruey, Charles Forney, B. F. Hean and Sterling G. Valentine, under the ownership of Mr. Coleman, and of Messrs. Valentine, David Baker, F. L. Grammar, A. Brady, H. B. Cox and S. S. Hartranft,—the latter being now in charge under the present owners.

During the ownership of Mr. Coleman Mr. Abram Hess was also connected with the works as General Business Manager.

The Legend of the Hounds.

FROM A VOLUME OF POEMS PUBLISHED IN 1869,

—BY—

Geo. H. Boker.



THE LEGEND OF THE HOUNDS.*

COLEBROOK FURNACE in Cornwall stands,
Crouched at the foot of the iron lands,—
The wondrous hill of iron ore
That pours its wealth through the furnace-door,
Is mixed with lime and smothered in wood,
Tortured with fire till a molten flood
Leaps from the taps to the sow below,
And her littered pigs that round her glow:
So that the gazer, looking down
The moulding floor from the platform's crown,
Might think, if fancy helped the spell,
He saw a grate in the roof of hell.
Around the furnace, far and near,
Slag and cinder spread year by year.
Never a blade of grass or flower
Stood in the sun or bowed in the shower:
Never a robin whistled nigh,
Or a swallow clove the grimy sky:
No cattle browsed, or musing stood
A summer's noon in the acrid flood:
Cursed and cursing, a thing of hate,
In its waste the moody furnace sate,
And the loathful breezes slowly led
The reek away from its flickering head,
To shower the poison down again

*—This Legend, referred to in Mr. Grillinger's Paper—a tale grim and fateful—
it was thought proper to give here in its entirety for its value along the line of leg-
endary lore, as one of the many legends pertaining to the early period of Lebanon
county, the collection and preservation of which is also one of the objects of its
Historical Society.

On arid hill and blighted plain.
Howbeit, this devil's labor rolled
Back on the Squire in floods of gold.
Gold and hunting and potent drink,
And loud-tongued girls, that grin and wink
Over the flagon's dripping brim,
These were the things that busied him.
Strong of sinew, and dull of mind,
He blustered round like a winter wind.
You could hear his laugh come on before
While his hounds were off a mile or more;
And in his wassail he stormed and roared,
Clashing his fist on the groaning board,
Or clutched his trulls till their young bones bent,
And they shrieked at his savage merriment.
No being called the ruffian friend;
Gold was his all; the power to lend
Bought service of the groveling fear
Which fawns, because it dares not sneer,
And there it ended. Save the beasts
Who guzzled with him at his feasts,
Or, worse, the wantons whose caress
Was sold, he was companionless
Of man or woman. One rare hound,
The wonder of the country round—
Flora, the leader of his pack—
Followed, a shadow, in his track;—
Followed despite his kicks and blows,
Paused when he paused, rose when he rose;
Nestled between his clumsy feet
When all the table swam with heat,
And causeless oath and witless joke
Around the swinish circle broke;
And sometimes when her drunken lord
Slid stupefied beneath the board,
And stonter comrades jeered his plight,
With pointed thumbs and laughter light,

She howled above the Squire's disgrace,
Or, moaning, licked his flaming face.
In field no hound could hold the scent
With Flora, as she bounding went
Ten lengths before the bounding chase,
And kept throughout her leading place.
No hound, however great of pride,
Had ever reached her milk-white side;
Unchallenged in the flying front,
She shone, a star, to all the hunt.
To this fair brute the selfish Squire
Showed favor sometimes, sometimes ire.
Upon her head he smote his spite:
Or when his sluggish heart was light,
He soothed her forehead, pulled her ear,
Or tossed her morsels from his cheer.
But cuff or kindness could not move
The temper of her steadfast love.
Serene, unfearing, taking all
That his capricious hand let fall,
Whether it smoothed or bruised a limb,
As grace, so it but came from him.
No moment passed, by day or night,
That Flora held him not in sight;
And haply when his business took
The Squire from home, her haggard look,
Her anxious whine and listening ear,
Her busy snufflings far and near,
Her almost meaning human talk,
As his great boots ground up the walk;
The yelp, the burst of boundless love
With which she crawled to him, and clove
Close to his side, whate'er his mood,
Shamed the best passion of the blood.

One winter night when half the world
Was drowned in snow, whose billows curled

Above all landmarks—when the breeze
Stung, like a swarm of angry bees,
And made the traveler wild and blind—
The Squire, half-drunken, left behind
Some neighboring revelers, to assay
Across the fields his homeward way.
How long he wandered, why or how
He reached the mountain's highest brow,
Straggling unheedful a stone's cast
From his own pale, and onward passed
Across the road and frozen brook,
While his chilled muscles crept and shook,
And each strong spasm of the gust
Half-smothered him with snowy dust—
Was that which from his torpid state
His memory could not separate.
At last bewildered at his plight,
He laughed; and with a spirit light,
Because the snow was soft and deep,
Thought he would rest himself in sleep.
He was not cold now nor afraid;
"For daylight will soon break," he said.
And the last things that crossed his mind,
Ere his numb senses he resigned
To sleep, was snow, snow, snow all round,
And the far baying of a hound.

Flora throughout the night had been
In grievous trouble, and her mein
Struck all the servants. O'er and o'er
She scratched and whimpered at the door,
Begging to pass, though still denied
Because the storm so raged outside.
At length, despairing of the Squire,
The house made ready to retire;—
"For surely no one, in his mind,
Would brave this awful snow and wind:"—

When suddenly from off her lair,
With ears erects, with every hair
Bristling upon her snowy hide,
Jaws hanging, eyes distended wide,
Tail rigid, twitching lip and nose,
Flora amidst the servants rose.
Paused in the middle of a bound,
Like silence listening for a sound,—
Paused but one moment. With a cry,
Or scream, said they then standing by,
Sheer through the glass she drove her way
Into the night. Oh such a bay!—
So clear, so clarion-like, so shrill—
Never arose on Cornwall hill,
When the spent fox toiled full in view,
And Flora heard the Squire's halloo,
As through the powered snow she tore,
With nothing visible before,
With nothing but God's hand to trace
The route and purpose of her chase!
She reached the Squire, a rigid heap:
Already the thick, fatal sleep
Was heavy on him; and the snow
Was rising, like a tidal flow,
Around his person. Brow and beard
Were buried quite, as Flora reared
Her form above him. So she stood
An instant in a thoughtful mood;
Then barked, bayed, bellowed in his ear,
Mad with the passion of her fear;
Licked his stiff nostrils and his cheek,
Mouthed the dull lips that could not speak,
Tugged at his garments, fiercely tore
His listless hands until the gore
Ran trickling slowly; and at length,
With all the vigor of her strength,
Dragged him along, good half a rood:

And fairly on his feet she stood
The man, bewildered and half dead,
Who staggered forward where she led,
With her long muzzle holding tight
His outer coat; and then a light—
He knew not when— he could not say—
Flashed round him, like a sudden day;
And somehow, stumbling, so he fell
Across his threshold— who could tell !—
Bursting apart the shattered door.
Long after that, he knew no more
Until he wakened in his bed,
With Flora resting her white head
Between his knees, and her soft eyes
Fixed on his own, serenely wise.

But all this happened long ago;
And many a storm of windy snow
Had capped the hill and filled the dell,
Since Flora's chase was news to tell.
A calm that scarcely made the trees
Nod recognition to the breeze
That from the south came up, and died
Along the tawny mountain-side;
A dull warm day, a cloud and haze;
As hunters know the days of days
For sport behind the vocal pack,
Once fastened on the fox's track.—
Such was the favored day that bent
Above the Squire, as forth he went;
Noisy and boastful, as of old,
To show some city friends how bold
His horses were before a fence;
And how the depths of every sense
Were stirred when all the hounds gave tongue,
And down the hill the whole hunt swung,
With hoop and halloo, bark and bay,

And o'er the country scoured away.
'I'll show them— by the Lord— I'll show
Such scenes as cockneys never know,
Prowling about their filthy streets,
Where plague at every window beats,
And Nature, like a beggar pale,
Stares vaguely through a grass-plot rail ! ''
His vulgar burst of pride, indeed
But gave the Cornwall lands their meed.
It seemed as though the fields and skies
Had interchanged their wonted dyes;
So dark the clouds, so bright the wood,
Glazed over with a dewy flood.
Purple and gold and flaming sheen
Stood out against the evergreen
That, here and there, in clumps and spires,
Defied October's painted fires;
And far away with mighty swell,
Like a great pillar thrust from hell,
The fumes of Colebrook Furnace stood
In dismal weight above the wood.

For all his boasts, the Squire's fine pack
Sulked at the outset, and held back,
With dropping tail and humble head,
And deprecating eyes that said,
Almost as tongues, this morning's sport
Finds us with spirits slack and short.
The Huntsmen and the angry Whips,
With curses hissing through their lips,
Drove the reluctant dogs along,
A sullen and rebellious throng.
Flora herself had lost her pride,
And strayed, with vacant eyes, mouth wide
And lolling tongue, behind them all,
Deaf to her duty's urgent call.
In wrath the Squire exclaimed, "Why zounds !

Matthew, what ails these cursed hounds ? ”
“ I know not, sir,” replied the Whip,
“ Unless some scoundrel chose to slip
A drng into their feed last night,
To do your promise a spite,
Those City chaps—” “ Pshaw ! drive along !
And— damn your mercy !— use the thong ! ”
“ No good in that. We’d best turn back.
You’ll get no run, Squire, from the pack.
And see you cockney’s tallow face;
He’s grinning at our hounds’ disgrace ! ”
Across the Squire’s low brow a band
Of crimson came. His strong right hand
Closed on his whip-stock till the thorn
Cracked in his clutch. A growl of scorn
Rolled from his lips, to see the smile
Flitting around him. For a while
He paused in doubt, then cried, “ Away,
To covert ! Give the dogs fair play !
And if they fail us there, why then—
But give the pack a chance, my men ! ”
Into the bush the Huntsmen led,
Shaking his doubting grizzled head:
And the keen whips on either side,
Flauked the dull pack, and closely pried
Hither and thither; till— Oh shame
To them and to the pack’s wide fame !—
Before their startled eyes they saw
Sly reynerd from the covert draw,
With brush in air, and skurry by,
Without a tongue to make reply
To the rogue’s challenge, “ There, look there !
A fox, by Satan ! And I swear,
If I have eyes, the rascal rose
Almost beneath white Flora’s nose !
Drive out the curs ! Is this the way
You beat a covert ? Out I say ! ”

The devilish temper of the Squire
Burst outward; as a furious fire,
That long has guawed a roof, at last
Breaks through it with a sudden blast,
And leaps revealed, and towers on high
In flames and sparks against the sky.
Amid the cowering dogs he dashed,
Rode over some, cursed all, and lashed
Even Flora till her milk-white side
With trickling crimson welts was dyed.
He raved and punished while his arm
Had strength to do the smallest harm;
Then paused with flaming eyes, white lips,
And bellowed at the trembling whips:
"Drive out you scoundrels!" "Drive, sir?—where?"
Just then the misty autumn air
Looked darker for a heavy smoke
That, rolling from the Furnace, broke
Above the woods, and waved its plume
Portentous of a coming doom.
"Where? Why to Colebrook, down the glen,
I'll show these town-bred gentlemen,
If my dogs cannot hunt so well
On earth, another hunt in hell!"
Bawled the mad Squire; and all the beast
In his base nature so increased,
That he could crown the deed he sought
With laughter brutal as the thought.
So the whole hunt toward Colebrook rode,
Marveling at what the Squire forbode
By those strange words. Across the waste
Of slag and cinder slowly paced
The snorting steeds; and hanging back,
Whipped to each step, the drooping pack
Followed perforce. Ah! well I know
That some foul malice of a foe
Had practiced on the noble hound;

Or what that day could so confound
Great nature's instinct, and so shame
The faithful creature's well won fame?
Beside the Furnace, wondering still
What freak the angry Squire might will,
The hunt dismounted. "Up!" he said,
"Up with you, to the furnace-head!
Yes, bring the dogs." The Whips looked blank.
Some muttered, "Nonsense!" and some shrank
From the fierce heat that overran
The reeking walls. "Up, dog and man!"
Yelled forth the Squire. "By Heaven, you'll rue,
If any balk the thing I'd do!"
That they knew well; so up they sped,
Still grumbling, to the furnace head.
"Call here the firemen!" And they came.
Grimy with dust, those sons of flame,
Half-brute, scarce human, drudges base,
Bound to their mean and groveling place
By nature not a whit above
The abject work at which they strove.
Beneath them, panting, rose and fell
The surface of that pot of hell.
Great logs of wood and limestone gray,
And tons of ore, all boiled away
In one huge mass that settled and fused
Crackled and sparkled, flashed and gloomed,
And belching its sulphurous breath around,
Reeking aloft towards Heaven's profound;
As though the devil's self had planned
A cunning engine, reared and manned,
Once more to wage against the Lord
The battle lost him by the sword.
A hundred curious eyes exchanged
Looks with their neighbors, as they ranged—
Hunters and firemen, and the crew
Of idlers who the chase pursue—
Around the dreadful caldron's jaws,

Waiting the Squire's behest. A pause—
In which the crackling of the coals,
The sobbing vapor and the rolls
Of pitchy smoke seemed strangely clear—
Fell on the gazer's eye and ear.
Then spoke the Squire; and if his breath
Had flamed like that vast pit of death,
Wilder dismay would not have hung
Upon the mandate of his tongue.
"Come here, you drones, and work a spell!
Look at your furnace! Can you tell
What needs a fire so dull and slack?
Feed it you sluggards with this pack!"
A cry, or protest rather, rose
From every lip before the close
Of those infernal words. Thank Heaven,
'Twas echoed by the lowest even!
Thank God, in man's behalf, I can
Record it for the sake of man!
Back from the furnace reeled the throng,
Stung to the heart; but stern and strong
As the dark, pitiless, vague form
That reigns in Hades, when the storm
Of wrath is wildest, and the lost
On blazing waves are upward tossed,
Pale with their fortunes, so the Squire,
Grim and unshaken in his mien,
With deadly calmness slowly said.
"Do as I order!" White with dread,
That beautified their dusky clay,
The dolts, who dare not disobey,
Approached the hounds. Oh, wonder not
At the poor serfs; for on that spot,
Such was their master's power and awe
That his mere nod was more than law;
'Twas fate, 'twas sustenance to come
To them and to the mouths at home.

Into the flames with howl and yell,
Hurled by the rugged firemen, fell
That pack of forty. Better hounds,
Fuller of music, of the sounds,
That fire the hunter, drawing near
His furry prey with whoop and cheer—
The dogs all bursting in full cry,
Crashing through brush and timber high—
Never could Cornwall boast; and still
The silent lands lamented their ill,
And the mysterious spell that lay
Upon them on that fatal day.
For now the bubbling liquid fire
Swallowed them all. Beside the Squire,
Flora alone stood desolate,
Sole relique of the general fate.
An hundred times had Flora dashed,
As some poor comrade yelling plashed
Into the sparkling molten lake,
With cries that any heart might shake—
An hundred times had Flora sprung,
Half frantic, moaning, giving tongue,
Up to the very furnace brim,
Then slowly backward crawled to him,
Her lord, her idol, with her eyes
Speaking her piteous surprise.
“What, you vile wanton, are you there?
In with the bitch!” But, Squire—” “I swear
I’ll brain the fool that wags a lip!”
Up rose his heavy hunting-whip:
Another word had sent it full
Upon the talker’s naked skull.
“In with her! She’s the last and worst;
Mere justice should have sent her first!”
T’owards her approached the loathful gang;
But Flora bared her ivory fang
And snarled a warning. Every hair

That bristled on her said—"Beware !"
As crouching low, her dangerous eye
Fixed on the ruffians drawing nigh,
She fairly awed them, till they stood
Quailing before her lion mood.
"You shrinking cowards,"—foamed the Squire,
Now with redoubled rage afire,
"Is't for your pretty skins you fear
To venture ? Flora !—here,—dog,—here !"
At once the look of wrath was gone:
A trusting, tender, loving dawn
Rose in her eyes: a low soft wail
Broke from her as the iron hand
Of the stont Squire from off her stand
Swung her; and striding towards the ledge
With his pleased burden, on the edge
Of awful death—oh, foul disgrace !—
She turned and licked his purple face.
Sheer out he flung her, as she fell,
Up from that palpitating hell
Came three shrill cries, and then a roll
Of thunder. Livery pallid soul
Shrank from the pit; and ghastly white,
As was the snow one winter night,
The Squire reeled backward. Long he gazed
From face to face; then asked, amazed,
"Was it a fancy ? If you heard,
Answer ! What was it ?—that last word
Which Flora flung me ?" Answer came,
As though one mouth pronounced the name,
And smote the asker as a rod:
"The word she said was—'God, God, God !' "

Home rode the Squire with heavy mind.
Why did he turn and look behind
So often, seeming there to trace
Something that followed pace by pace ?

What was the meaning of his sighs,
His wistful looks in others eyes,
As though he wished to solve a doubt
Of what he dared not ask about?
Why was he so bewildered?— So
Astray in talking? Where the flow
Of those coarse spirits that so long
Had bouyed him up through sin and wrong?
What was it? Something was not right
About him that was plain to sight.

After that hunt a change began
To work upon the stricken man,
Sulky and dismal, still and shy,
He sulked to shun the public eye.
Comrade by comrade gave him up,
No more for him the festal cup
Went round; no more the drunken jeer
Through peals of laughter smote the ear
His table spread its leaves no more
To tempt his cronies to his door;
The girls, he one time loved so well,
Shrank from the strange abiding spell
That lay upon him. All alone
With some dread secret of his own,
That shook him with a nervous fear
When man or maid or child drew near—
Some mystery that shunned the light,
And stole away from common sight,
Burdened his mind and made his ways
Sad to behold—he passed his days
Hour after hour, with listless air,
He'd idly rock upon his chair;
But this strange fact was marked by all,
Who served his sulken beck and call,
That ever, as he took his seat,
It seemed as though his shrieking feet

Were pushed apart by something, seen
But by himself. As strange his mien
In walking; for his hanging hand
He'd often snatch as though a brand
Were laid against it. Often too,
When his house-door he entered through,
He'd slam it tight, as though he tried
To shut upon the outer side
Some odious follower. Of the Squire
But this remained, a thirst like fire
For drink, drink ever. Tawny wine,
Or the pale vintage of the Rhine,
Or crimson claret, or the cup
That forms and sparkles, he gave up
For that accursed friend whose eye
Glares through the spirit of the rye,
And scatters o'er this hapless land
Wreck, woe and death on every hand.
From morn till eve the whiskey ran
In burning torrents through the man;
And often in the middle night
Or when the sky was gray with light,
The waking servant heard the clink
Of glass, fore-running drink, more drink,

The Squire's bad way of life at length
Told even on his rugged strength;
The drink gnawed slowly to the seat
Of life itself. His tottering feet,
His moist dull eyes, his mottled skin,
The stupor deadening all within,
The silly giggle and the wink
With which he clutched the fatal drink—
All these things said to any ear,
The Squire's last hour is drawing near;
Cut out the cloth and wax the thread,
To make a garment for the dead!

Twice spasms had seized him; fancies dread
Of snakes and vermin throug'd his bed.
Male nurses, from the distant town,
Between his gnashing teeth forced down
Strong opiates; while his wakeful eyes
Flared here and there, with vague surprise
At visions which he tried to touch
With care seeming truth was such—
Slowly he rallied from these spells,
Emerging from long sleep; and hell's
Apparent purpose twice was foiled.
So the poor mortal slowly toiled
Back into life; and for a tide
He and the draught of suicide
Were strangers; but some influence,
That had the mastery of his sense,
Would draw him down, till once again
The demon held his deadly reign.
For the third time at length he lay
Upon his bed. The heat and fray,
The feverous phantoms all were gone;
And sane in mind, and most forlorn,
He panted onward through the dark;
Drifting along like some wrecked bark,
Blown inwards towards a misty coast,
That shouts with all its white-capped host,
From every bar and headland near,
A warning which Fate laughs to hear.
He spoke: "Where's Flora?" None replied.
"That's strange!" and then he weakly tried
To peer around. "Gone, gone! then I
Must follow!" With a dreary sigh,
As one accepts a coming fate,
Foredoomed him from the earliest date,
The Squire turned slowly on his bed.
"Open the curtains; raise my head!
For I must look my last to-night

On Colebrook Furnace. What a light
Circles its head ! What angry reeks,
In blue and white and yellow streaks,
Roll o'er it, flashing higher and higher,
Whene'er they feed the raging fire !
Give me some drink.— Not that damned stuff,
But whiskey ! I have had enough
Of doctor's potions. Let me slip,
With honest liquor on my lip
Out of this life. I long to flee;
Better may come; worse cannot be."
As he was ordered thus, the nurse
Held long and oft the liquid curse
To the Squire's mouth. The leech had said,
Shaking his placid smiling head,
"When the serpent wretch rejects his draught—"
And here the fawning nurses had laughed—
"His hour will be at hand." The Squire
Gazed long on Colebrook's lurid fire.
A while he muttered to himself
Of dogs and horses, girls and pelf;
Or softer fancies of the child—
Made pictures, till he almost smiled.
But suddenly, with fearful cries,
Through the wide sash he fixed his eyes;
Then strained and rose, full half his length,
Upon his mattress, by main strength.

Shouting, so all the house might hear,
Aghast with more than mortal fear,—
"Here they all come, the hellish pack,
Pouring from Colebrook Furnace, back
Into the world ! Oh, see, see, see !
They snuff, to get the wind of me !
They've found it ! Flora heads the whole,—
Whiter than any snows that roll
O'er Cornwall's hills, and bury deep

The wanderer in blissful sleep.
Ho ! mark then ! We shall have a run
Before this ghastly meet is done !
Now they give tongue ! They've found their prey !
Here they come crashing, all this way—
And all afire ! And it is I—
Weak as I am, and like to die—
Who must be hunted !" With a bound
He reached the floor, and fled around;
Once, twice, thrice, round the room he fled,
Then in the curses' arms fell dead.

Still Colebrook Furnace grimly stands,
Waving its plume o'er Cornwall's lands,
Blighting the air with poisoned breath,
Spreading the bounds of waste and death,
Its slag and cinder, dry and dun,
That nothing green will grow upon;
Still like a hoary king, it rears
Its head among its dismal peers;
Still at its glowing feet are rolled
The floods that turn to wicked gold;
Still beasts, birds, reptiles shun the place;
And the man alone will do it grace;
The Squire and all his race are gone;
But this wild legend still lives on.
Christ save us from the wretched fate
Of him who dared his wrath to sate
On God's dumb creatures, as of old
Befell the Squire of whom I told !

